

WHAT IS CLAIMED IS:

1. A method for transmitting data in a network between first and second single-line digital subscriber line (SDSL) modems using a standard high data rate digital subscriber line (HDSL) frame format, the frame format including at least one field in each data payload block for implementing a feature relating to one of T1 and E1 transmission protocols, the method comprising employing the at least one field for transmission of selected payload data.

2. The method of claim 1 further comprising: receiving the data as a data stream with the first SDSL modem; generating a sequence of data frames in the HDSL frame format with the first SDSL modem; and transmitting the sequence of data frames to the second SDSL modem.

3. The method of claim 2 wherein generating the sequence of data frames comprises: taking the selected payload data from the data stream and storing the selected payload data in a register associated with the first SDSL modem, the register corresponding to the feature; using the selected payload data in the register to generate the sequence of data frames, the selected payload data occupying the at least one field in the data payload blocks.

4. The method of claim 3 wherein the register comprises an F/Z bit register.

5. The method of claim 1 further comprising: receiving the data as a sequence of data frames in the HDSL frame format from the first SDSL modem with the second SDSL modem; and decomposing the sequence of data frames into a data

stream with the second SDSL modem.

6. The method of claim 5 wherein decomposing the sequence of data frames comprises:

5 taking the selected payload data from the at least one field in the payload blocks of the sequence of data frames and storing the selected payload data in a register associated with the second SDSL modem, the register corresponding to the feature;

10 inserting the selected payload data in the register ~~into the data stream.~~

7. The method of claim 6 wherein the register comprises an F/Z bit register.

8. The method of claim 1 wherein the network comprises a public telephone network, the first SDSL modem being associated with a central office and the second SDSL modem being associated with a subscriber premises.

9. The method of claim 1 wherein the network comprises a public telephone network, the first SDSL modem being associated with a subscriber premises and the second SDSL modem being associated with a central office.

10. The method of claim 1 wherein the at least one field comprises an F/Z bit field.

11. A single-line digital subscriber line (SDSL) modem for transmitting a sequence of data frames according to a standard high data rate digital subscriber line (HDSL) frame format, the frame format including at least one field in each data payload block for implementing a feature relating to one of T1 and E1 transmission protocols, the modem comprising:

35 framing circuitry for receiving an incoming data stream and generating the sequence of data frames, the framing circuitry employing the at least one field for transmission of selected payload data from the incoming data stream; and

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modulation circuitry for modulating and transmitting the sequence of data frames.

12. The modem of claim 11 further comprising a register associated with the framing circuitry and corresponding to the feature, the framing circuitry being operable to take the selected payload data from the data stream, store the selected payload data in the register, and insert the selected payload data in the register into the at least one field in the payload blocks of the sequence of data frames.

13. The modem of claim 12 wherein the register comprises an F/Z bit register and the at least one field comprises an F/Z bit field.

14. A single-line digital subscriber line (SDSL) modem for receiving a sequence of data frames in a standard high data rate digital subscriber line (HDSL) frame format, the frame format including at least one field in each data payload block for implementing a feature relating to one of T1 and E1 transmission protocols, the modem comprising:

demodulation circuitry for receiving and demodulating the sequence of data frames; and

framing circuitry for receiving the demodulated sequence of data frames and generating a data stream, the framing circuitry inserting selected payload data stored in the at least one field into the data stream.

15. The modem of claim 14 further comprising a register associated with the framing circuitry and corresponding to the feature, the framing circuitry being operable to take the selected payload data from the at least one field in the payload blocks of the sequence of data frames, store the selected payload data in the register, and insert the selected payload data in the register into the data stream.

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16. The modem of claim 15 wherein the register comprises an F/Z bit register and the at least one field comprises an F/Z bit field.

17. A high data rate digital subscriber line (HDSL) data frame comprising a plurality of overhead fields and a plurality of payload fields, each of the payload fields having at least one additional field associated therewith for implementing a feature relating to one of T1 and E1 transmission protocols, wherein the at least one additional fields are used for transmitting payload data on a single-line digital subscriber line (SDSL).

18. The HDSL data frame of claim 17 wherein the at least one additional field comprises an F/Z bit field.

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